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PHOTOGRAPHIC INTERPRETATION REPORT

MISSILE, RADARS, AND ASSOCIATED EQUIPMENT, MYS SET-NAVOLOK SAM SITE, USSR MAY-JUNE 1964

CIA

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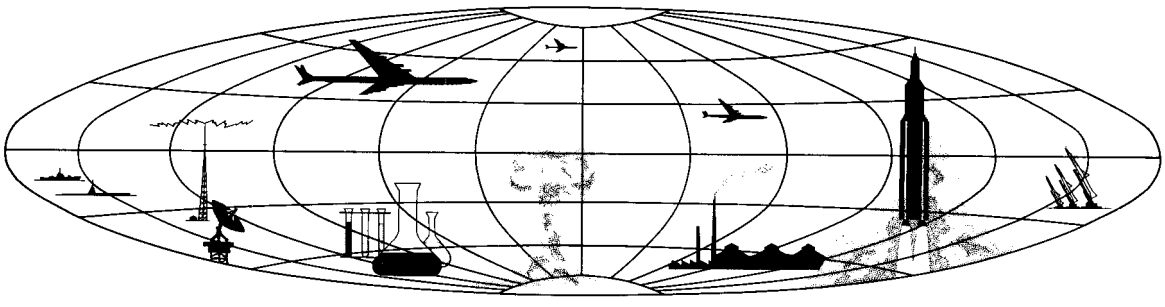
NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER



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MISSILE, RADARS, AND ASSOCIATED EQUIPMENT, MYS SET-NAVOLOK SAM SITE, USSR, MAY-JUNE 1964

This report has been prepared in response to CIA requirement C-SI4-81,661 requesting as complete a mensuration and interpretation as possible of the missile, launcher, transporter, guidance van, and radars at Mys Set-Navolok SAM Site as observed on small-format photographs of mid-May and late June 1964 furnished by the requester. In addition to these, other small-format photographs, dated summer 1963, have been used in the preparation of the report.

The measurements which could be made are accurate only to within plus or minus 10 percent. Because the focal lengths of the cameras used and the locations of the camera stations were unknown, it was necessary to compute dimensions by scaling, i.e., comparing the sizes of the objects to be measured with an object of known size; the guidance van (Figure 1), known to be 10.5 feet high, was used as such an object. Accuracy of this method was impaired by the blurred images presented by some objects, the skewness of some objects from the focal plane, and the low resolution of some of the photography.

MISSILE, LAUNCHER, AND TRANSPORTER

The missile appears to be 2-stage and has 3 sets of fins. It is mounted on a launcher that has twin mounts, each of which has a flame deflector that can be folded up onto the launcher. The launcher can rotate on its base 360 degrees and is transportable in that it can be placed on bogie wheels and towed. Measurements of the missile and launcher are provided in Figure 2.

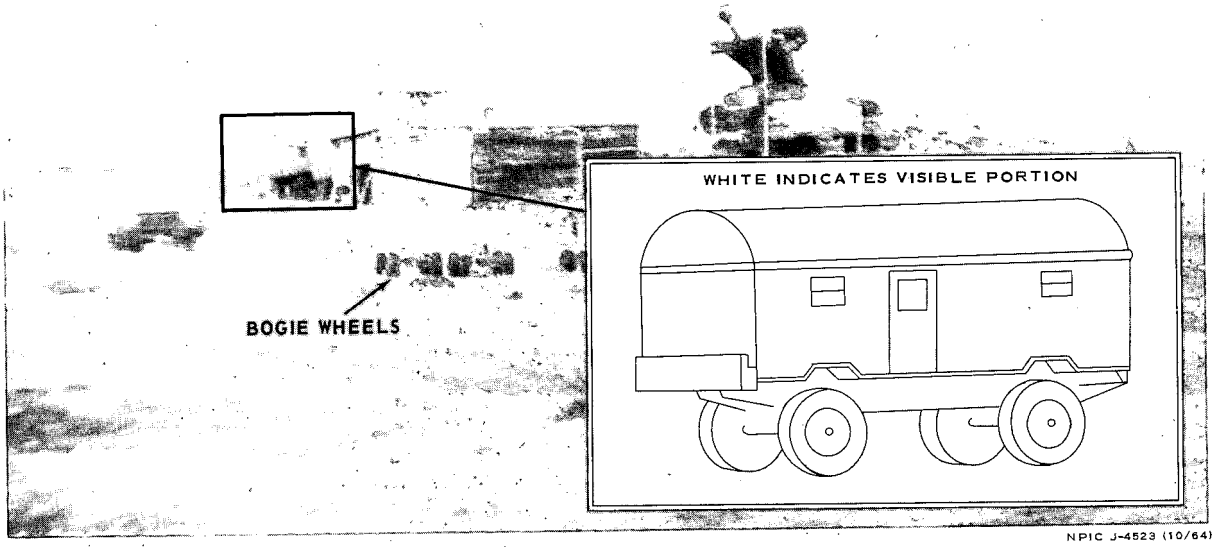

FIGURE 1. GUIDANCE VAN TRAILER, MAY-JUNE 1964.

The angle of the flange of the missile to the missile's long axis could not be determined because of skewness and the low resolution of the photography. The missile transporter (Figures 3 and 4) appears to be a standard ZIL-type truck that has been altered by the mounting of twin racks for missiles behind the cab. The guidance van which was observed is shown in Figure 1.

RADARS

Three radar antennas, consisting of 2 surveillance/acquisition and 1 SAM guidance, and one possible IFF antenna can be observed atop the hill at the SAM site (Figure 5). In addition, at least 2 high-frequency (HF) communications antennas can be seen on its slopes. Other poles and masts are on the hill but near an old coastal gun battery, suggesting they may be associated with it rather than with the SAM site.

One of the surveillance/acquisition radars (Figure 6) consists of 2 parabolic or "orange-peel" reflectors stacked one above the other

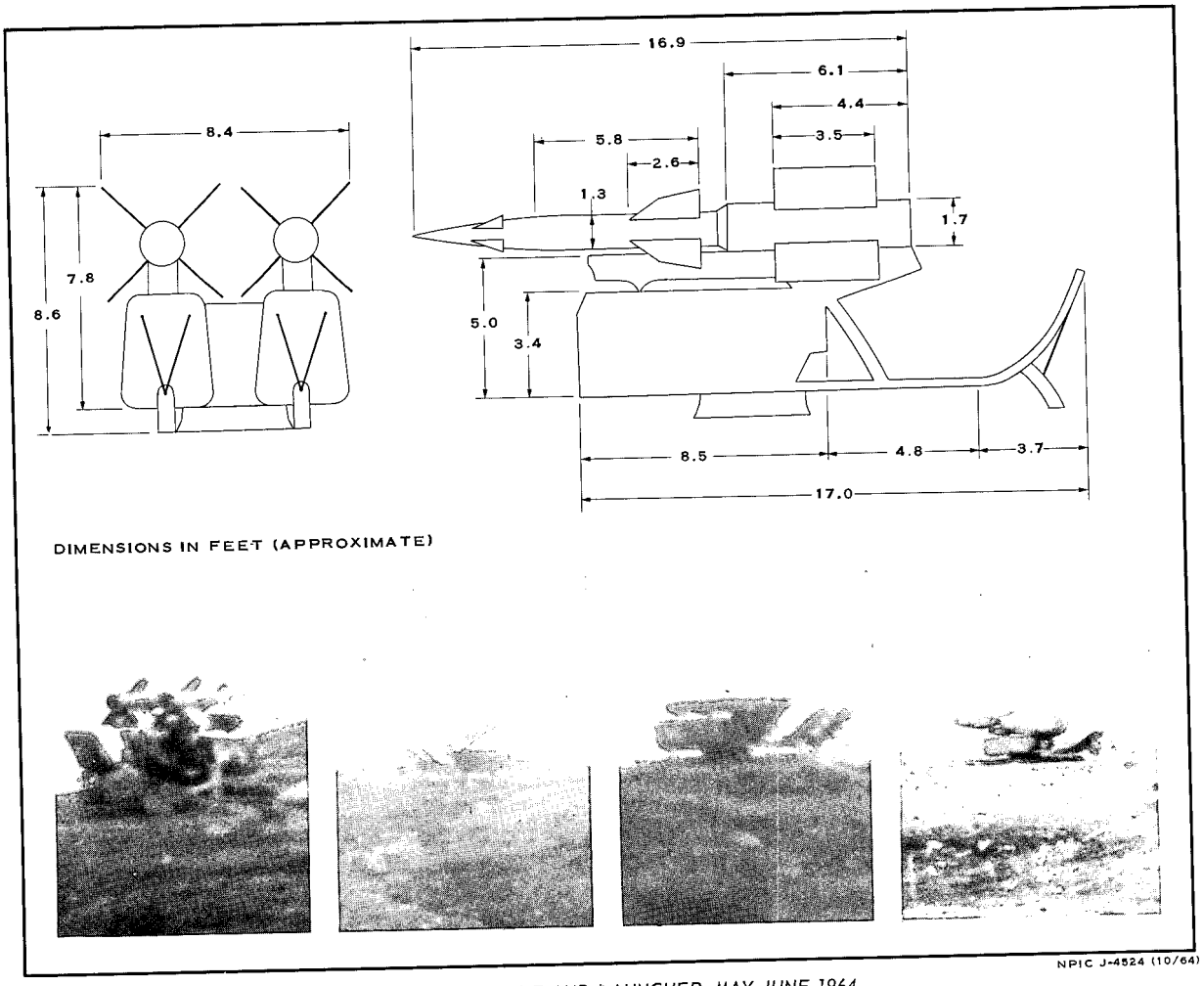

FIGURE 2. MISSILE AND LAUNCHER, MAY-JUNE 1964.

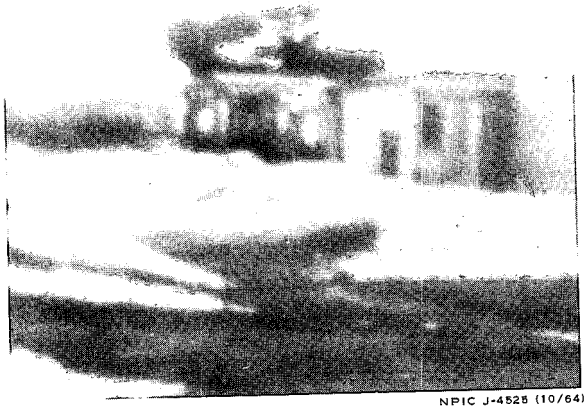

FIGURE 3. MISSILE TRANSPORTER, MAY-JUNE 1964.

and having a waveguide-type feed. One photograph (Figure 6) shows the radar to be van mounted, and another (Figure 7) shows it to be shed mounted (although in the latter the radar may be mounted on a van behind a shed). The radar is rotatable, but the reflectors have not been observed fully broadside; accordingly, no attempt has been made to measure their length. The ground falls away from the radar on all sides, indicating that it may be primarily for low-altitude acquisition. The other surveillance/acquisition radar (Figure 7) consists of a long, rather clumsy-appearing boom, which supports vertical ribs, which presumably in turn support the active or driven antenna elements; indistinct imagery precludes observation of details.

The possible IFF antenna (Figure 8) is located near the old coastal gun battery and appears to consist of 2 folded dipoles in front of a rectangular reflector; indistinct imagery again precludes observation of details.

The SAM guidance radar (Figures 9 and 10) consists of 4 antennas apparently arranged in pairs (Figure 10). Two consist of parabolic sections or dishes with rectangular outlines and

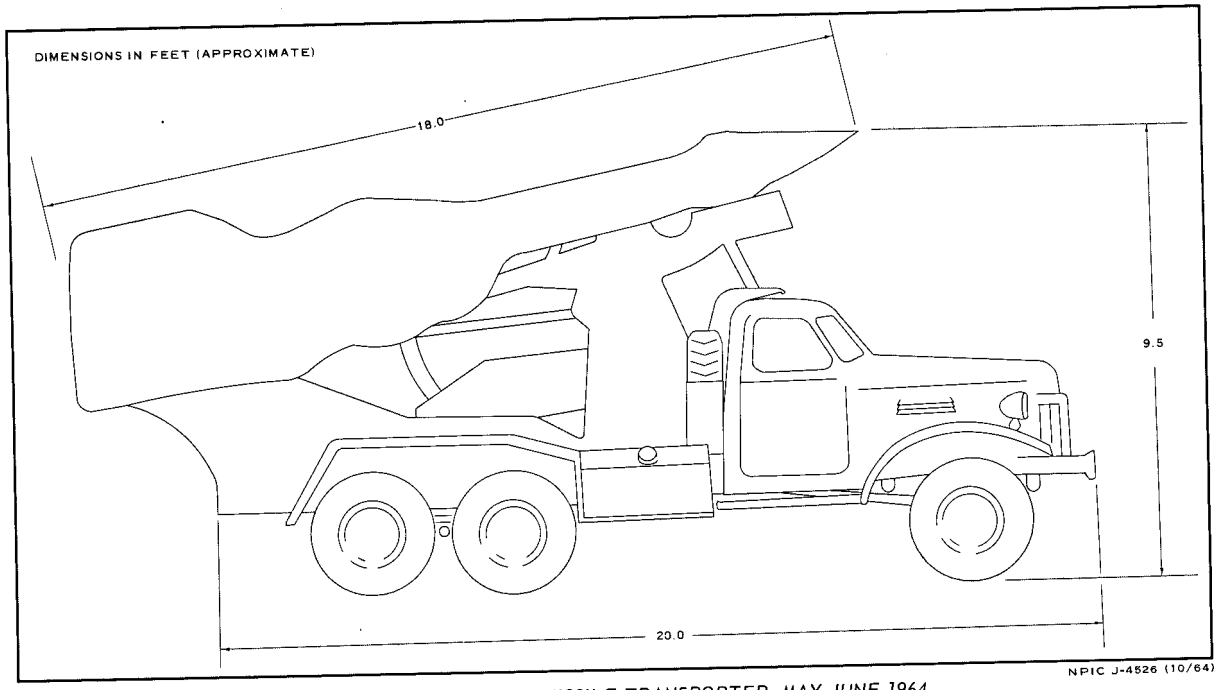

FIGURE 4. CONCEPT OF MISSILE TRANSPORTER, MAY-JUNE 1964.

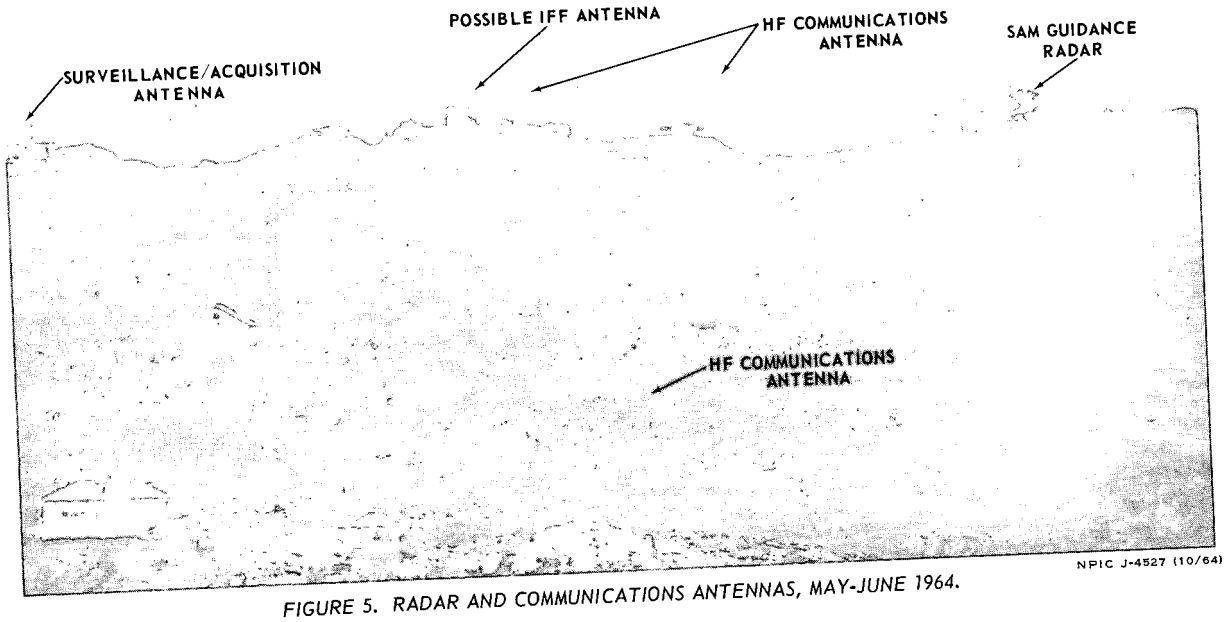

FIGURE 5. RADAR AND COMMUNICATIONS ANTENNAS, MAY-JUNE 1964.

have waveguide feeds. The other 2 appear to be troughs. The latter can be tilted and rotated, but appear always to form a right angle to each other. The independent movement of the antennas apparently can unbalance the radar set, as indicated by individually adjustable counterweights near the bottom. The radar as seen in separate photographs (Figure 9) presents a confusing appearance, i.e., the number of antennas appears to be more and less than 4; this is caused by the change of perspective resulting from the horizontal rotation and tilting of the radar.

The 2 HF communications antennas consist of horizontal-wire dipoles. A transmission line drops from the center or near-center of each wire into a small communications hut. The other poles and masts in the area suggest the presence of more of these and other types of communications antennas.

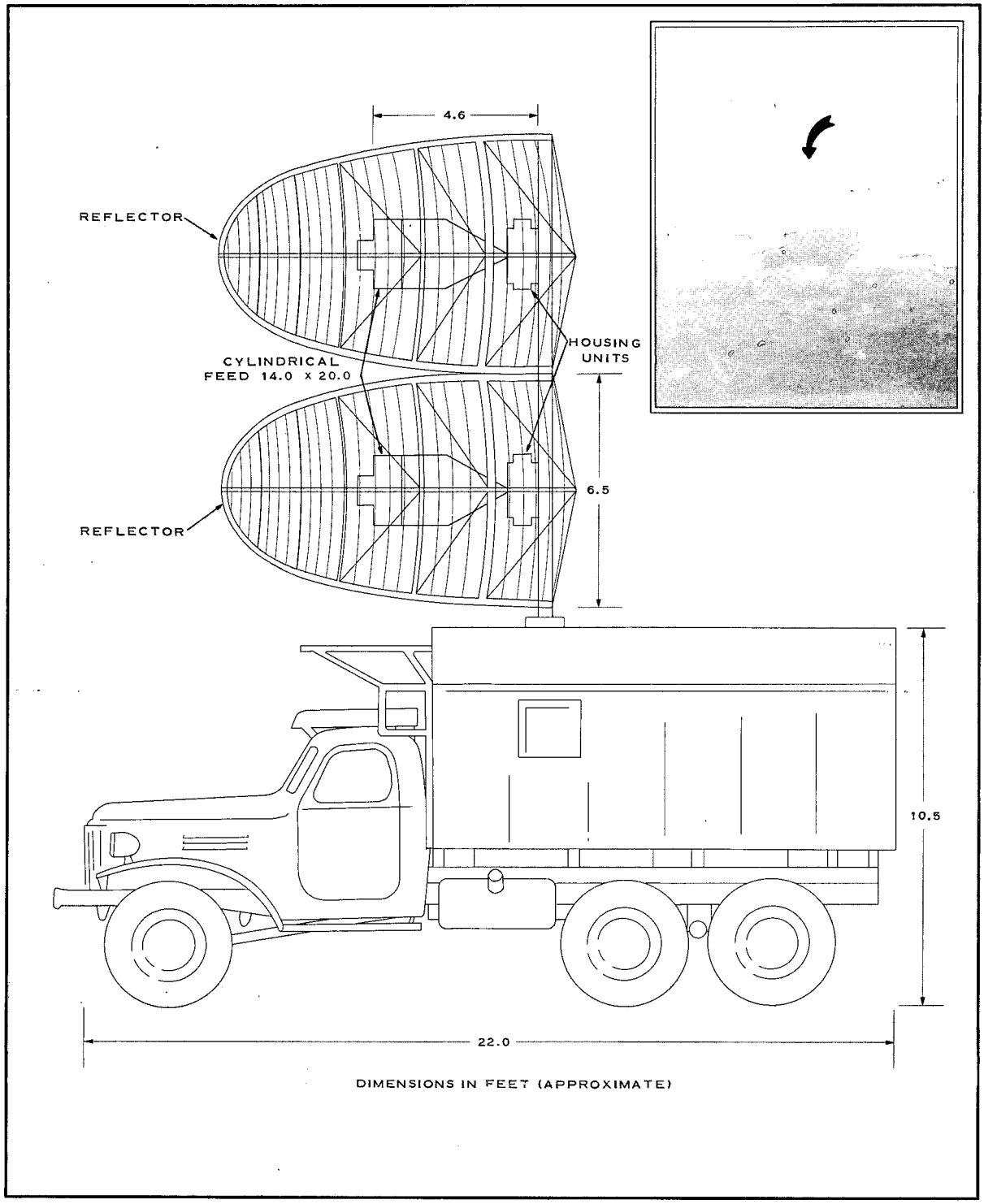

FIGURE 6. SURVEILLANCE/ACQUISITION RADAR ANTENNA ON VAN, SUMMER 1963.

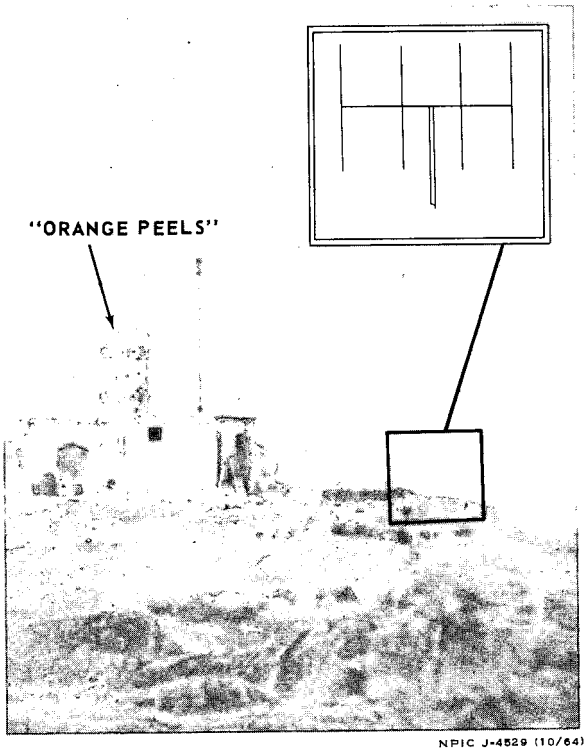

FIGURE 7. SURVEILLANCE/ACQUISITION RADAR ANTENNAS, MAY-JUNE 1964.

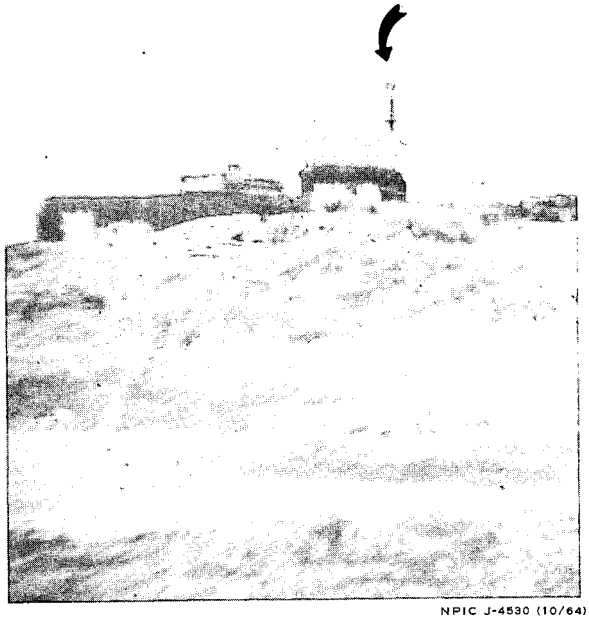

FIGURE 8. POSSIBLE IFF ANTENNA, MAY-JUNE 1964.

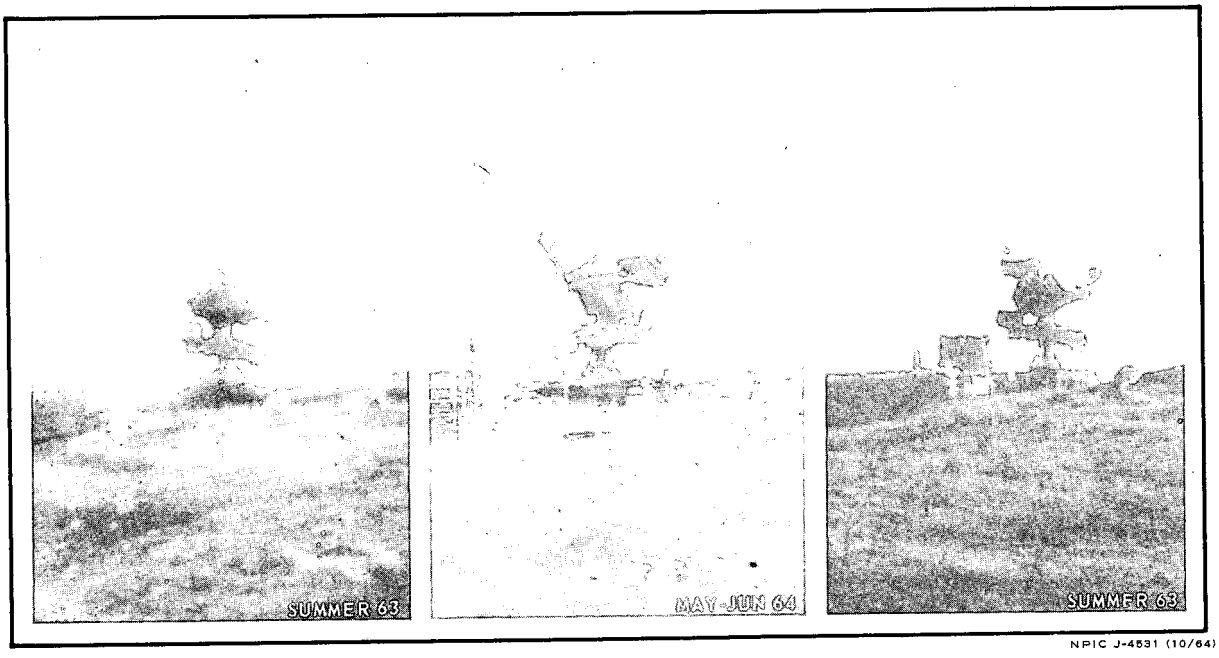

FIGURE 9. SAM GUIDANCE RADAR, MYS SET-NAVOLOK SAM SITE.

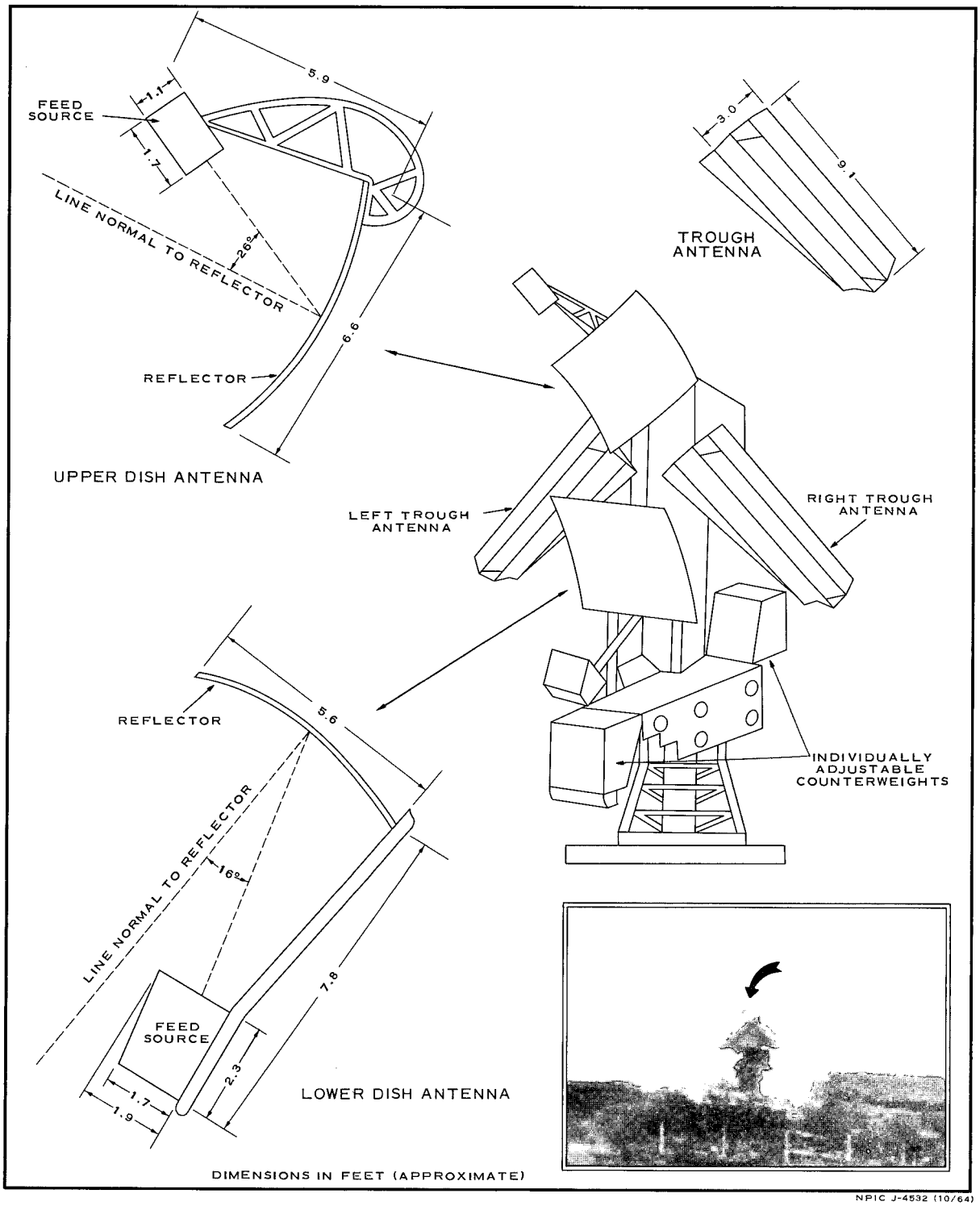

FIGURE 10. CONCEPT OF ANTENNAS OF SAM GUIDANCE RADAR, SUMMER 1963.

REFERENCES

PHOTOGRAPHY

Agency	Accession Nos	Date	Classification
CIA	997011-997040, 998015-998039	mid-May-late Jun 64	SECRET/No Foreign Dissem
CIA	934718, 944479, 953481	Summer 63	SECRET/No Foreign Dissem

REQUIREMENT

CIA. C-SI4-81,661

NPIC PROJECT

N-846/64